

Appl. No. 09/127,644
Amdt. dated February 16, 2005
Reply to Decision on Appeal of September 27, 2004

PATENT

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

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Please cancel claims 1-22.

- 1 23. (New) A magnetically journalled rotational arrangement comprising a
- 2 substantially disc-shaped or ring-shaped magnetically journalled rotor and
- 3 a stator comprising:
 - 4 means for generating a field, wherein said field produces rotation of the
 - 5 rotor having means for generating a unipolar bias magnetic flux spatially modulated when
 - 6 viewed in the circumferential direction; and
 - 7 a plurality of permanent magnets arranged to cooperate with the means
 - 8 provided on the rotor generating the spatially modulated bias magnetic flux and producing or
 - 9 reinforcing the magnetic journalling of the rotor,
 - 10 wherein the stator effecting the magnetic journalling of the rotor surrounds
 - 11 the ring or disc-shaped rotor,
 - 12 wherein the stator plane and the rotor plane coincide and from a bearing
 - 13 plane, and
 - 14 wherein the means for generating the field are arranged in the segments
 - 15 between the permanent magnets in the stator so that the motor plane in which the rotation of the
 - 16 rotor is produced and the bearing plane in which the journalling of the rotor is produced
 - 17 coincide.

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1 24. (New) A rotational arrangement in accordance with claim 23 wherein the
2 means for the production of the field which effects the rotation of the rotor and which is arranged
3 in the segments between the permanent magnets has U-shaped coil cores with windings, with the
4 U-shaped coil cores being arranged in the bearing plane.

1 25. (New) A rotational arrangement in accordance with claim 23 wherein the
2 means for the production of the field which effects the rotation of the rotor and which is arranged
3 in the segments between the permanent magnets has U-shaped coil cores with windings, with the
4 U-shaped coil cores being arranged perpendicular to the bearing plane.

1 26. (New) A rotational arrangement in accordance with claim 23 wherein the
2 permanent magnets are arranged at both sides of the disc-shaped or ring-shaped rotor.

1 27. (New) A rotational arrangement in accordance with claim 23 wherein the
2 permanent magnets have an axial or a radial magnetization.

1 28. (New) A rotational arrangement in accordance with claim 23 wherein
2 permanent magnets are provided both on the rotor and on the stator; and wherein both the
3 permanent magnets provided on the rotor and the permanent magnets arranged on the stator are
4 magnetized in the axial direction.

1 29. (New) A rotational arrangement in accordance with claim 23 wherein
2 permanent magnets are provided both on the rotor and on the stator; and wherein both the
3 permanent magnets provided on the rotor and the permanent magnets arranged on the stator are
4 magnetized in the radial direction.

1 30. (New) A rotational arrangement in accordance with claim 23 wherein
2 permanent magnets are provided both on the rotor and on the stator; and wherein the permanent
3 magnets provided on the rotor are magnetized in the axial direction while the permanent magnets
4 arranged on the stator are magnetized in the radial direction or vice versa.

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1 31. (New) A rotational arrangement in accordance with claim 23 wherein
2 control windings are provided in the stator in order to control the spatially modulated unipolar
3 bias magnetic flux.

1 32. (New) A rotational arrangement in accordance with claim 23 wherein the
2 stator producing the magnetic journalling of the rotor is designed to be substantially ring-shaped
3 and surrounds the ring or disc-shaped rotor, with the stator plane and the rotor plane coinciding
4 and forming the bearing plane; and wherein the stator comprises at least one further ring or disc-
5 shaped motor stator which is arranged in a motor plane parallel to the bearing plane.

1 33. (New) A magnetically journaled rotational arrangement comprising a
2 substantially disc-shaped or ring-shaped magnetically journaled rotor and
3 a stator comprising:

4 means for generating a field, wherein said field produces rotation of the
5 rotor having means for generating a unipolar bias magnetic flux spatially modulated when
6 viewed in the circumferential direction; and

7 a plurality of permanent magnets arranged on both sides of the rotor to
8 cooperate with the means provided on the rotor generating the spatially modulated bias magnetic
9 flux and producing or reinforcing the magnetic journalling of the rotor,

10 wherein the stator plane and the rotor plane coincide and from a bearing
11 plane, and

12 wherein the stator producing the magnetic journalling of the rotor
13 surrounds the ring or disc-shaped rotor, and

14 the stator further comprises two ring-shaped motor stators, wherein the
15 first motor stator is arranged in a first motor plane parallel to the bearing plane on the one side of
16 the bearing stator and the second motor stator in a second motor plane parallel to the bearing
17 plane.

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1 34. (New) A magnetically journalled rotational arrangement comprising a
2 substantially disc-shaped or ring-shaped magnetically journalled rotor and
3 a stator comprising:

4 means for generating a field, wherein said field produces rotation of the
5 rotor having means for generating a unipolar bias magnetic flux spatially modulated when
6 viewed in the circumferential direction; and

7 a plurality of permanent magnets arranged to cooperate with the means
8 provided on the rotor generating the spatially modulated bias magnetic flux and producing or
9 reinforcing the magnetic journalling of the rotor,

10 wherein the stator plane and the rotor plane coincide and from a bearing
11 plane, and

12 wherein the stator producing the magnetic journalling of the rotor
13 surrounds the ring or disc-shaped rotor, and

14 the stator further comprises a disc-shaped motor having a disc rotor
15 winding and arranged in a motor plane parallel to the bearing plane.

1 35. (New) A rotational arrangement in accordance with claim 23 wherein the
2 means for the production of the field which effects the rotation of the rotor comprises a rotatable
3 drive which can be magnetically coupled to the rotor and the axis of rotation of which coincides
4 with the axis of rotation of the rotor.

1 36. (New) A rotational arrangement in accordance with claim 35 wherein the
2 drive comprises permanent magnets which are magnetized in the axial direction.

1 37. (New) A rotational arrangement in accordance with claim 35 wherein the
2 drive comprises permanent magnets which are magnetized in the radial direction.